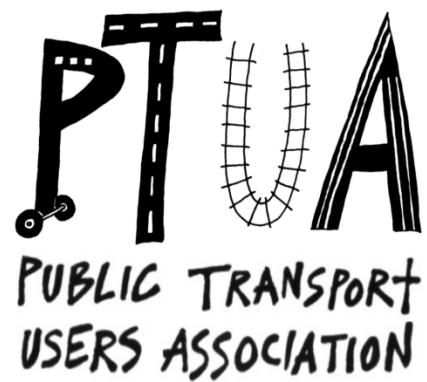


Victorian Budget Submission 2013-14

January 2013



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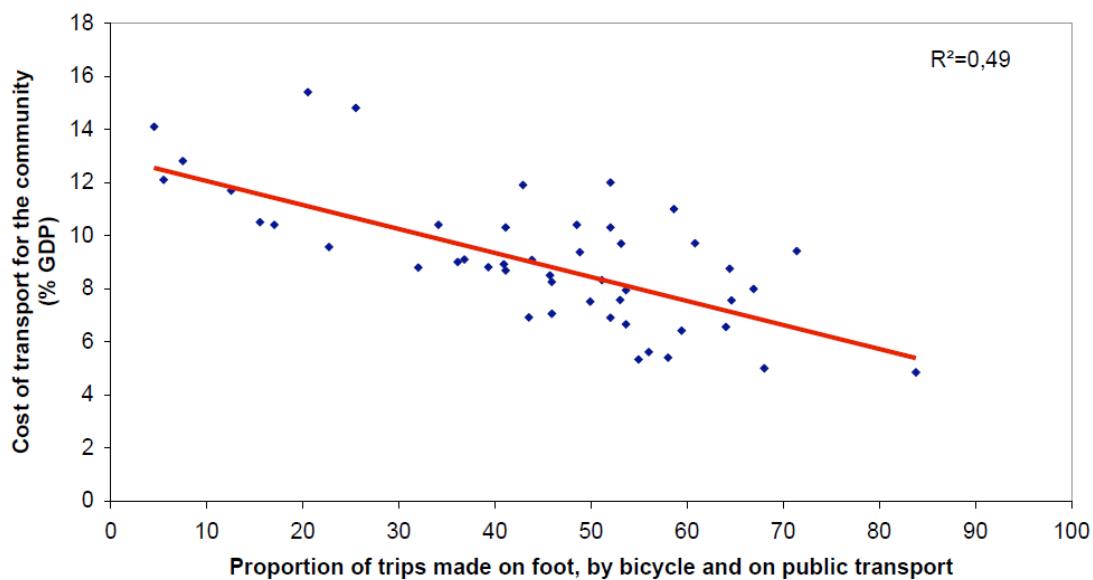
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1 Saving money

The Victorian government's recently released strategy document, *Securing Victoria's Economy – Planning, Building, Delivering* (Victorian Government 2012a), outlines fiscal challenges facing the state government and cost of living pressures on households.

Heavy reliance on private motor vehicles is a major drain on household finances and on government budgets. Compared to regions with better alternative transport options, car dependent regions are forced to spend more of their resources on transport (see Figure 1.1). These additional costs include larger (more costly) roads in an attempt to cater for heavier traffic (whether funded through taxes and/or tolls), higher car running costs such as fuel and maintenance, and car purchase and financing costs for every family member of driving age.

Figure 1.1: Cost of transport for the community vs. Modal split



©UITP2005

Source: Vivier & Pourbaix 2006

Car dependence drains resources away from more productive investments or expenditure that has stronger local economic benefits (see Table 1-1). Governments that attempt to cater for high levels of traffic resulting from car dependence will also find much of their finance siphoned off for road building at the expense of other services such as health and education.

Car dependence can be reduced by improving access to good quality public transport and making active transport - walking and cycling - viable options for a wider range of journeys for more people. Public transport and active transport are much more space-efficient and energy-efficient, allowing large savings in transport costs across the economy through reduced congestion, energy use and road construction and maintenance costs.

Table 1-1: Economic Impacts per \$1 Million Expenditures

Expense category	Value Added 2006 Dollars	Employment FTEs	Compensation 2006 Dollars
Auto fuel	\$1,139,110	12.8	\$516,438
Other vehicle expenses	\$1,088,845	13.7	\$600,082
Household bundles			
<i>Including auto expenses</i>	\$1,278,440	17.0	\$625,533
<i>Redistributed auto expenses</i>	\$1,292,362	17.3	\$627,465
Public transit	\$1,815,823	31.3	\$1,591,993

Note: Expenditure on motor vehicles generates comparatively less employment than other consumer expenditure.

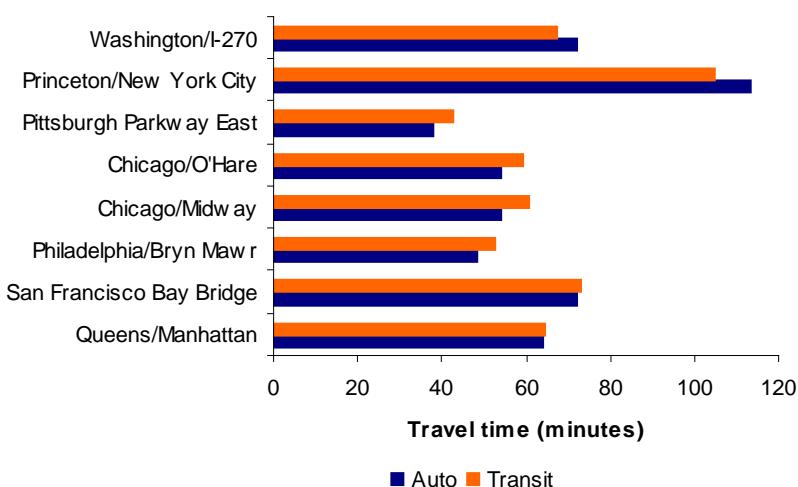
Source: Chmelynski 2008 cited in Litman 2010, p.43

2 Saving time

Transport researchers now recognise that trying to solve congestion by expanding road capacity is like trying to solve obesity by loosening your belt. Experience has demonstrated time and again that new or expanded roads encourage more traffic that in turn ensures more people spend more time in gridlock (Mogridge 1997; PTUA 2008b, pp.15-20; Low & Odgers 2012; Næss, Nicolaisen & Strand 2012).

Alternative transport options –like public transport and active transport - that offer competitive door-to-door travel times can act like a “pressure valve” that allows travellers to avoid congested roads while still accessing employment, education and social activities (PTUA 2008b, pp.16-19). If time-competitive public transport is available, people can avoid driving. However, if time-competitive public transport is not available, people will be forced to drive and contribute to even slower road journey times. For this reason, road travel speeds will tend to equalise with public transport journey speeds (see Figure 2.1). Slow, infrequent public transport services will ensure slow, heavy traffic (Mogridge 1997).

Figure 2.1: Comparison of door-to-door travel times



Source: Lewis & Williams 1999, p.112.

Note: Road speeds tend to equalise with public transport speeds since some road users will switch to public transport if rising traffic volumes cause traffic speed to deteriorate. Faster public transport encourages greater switching away from private car journeys.

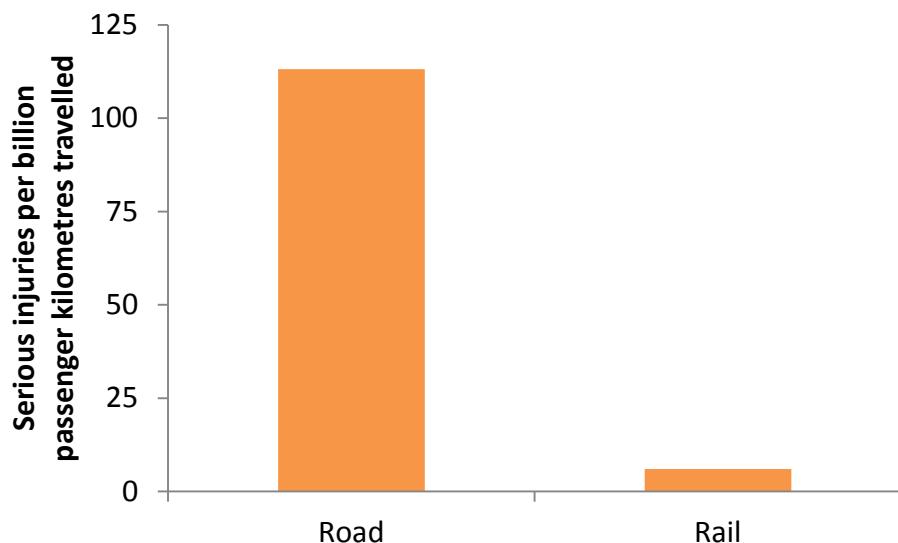
Given the impact of car dependence on transport costs (see Section 1) and the additional traffic encouraged by road expansion, the significant volume of infrastructure investment stated in the Victorian Government’s strategy document (Victorian Government 2012a, p.31) should be dedicated primarily to improving public transport and facilities for walking and cycling. The Government should also abandon the proposed East-West motorway which was not flagged ahead of the 2010 election and which would cost nearly \$4 billion more than any supposed benefits it may deliver (PTUA 2008a, pp.16-17).

3 Saving lives

The Victorian Government's road safety directions paper, *Victoria's Road Safety Strategy – Have Your Say*, highlighted the hidden toll of serious injuries on the road (Victorian Government 2012b). Recent reports also show that serious injuries are increasing in number, in contrast to deaths on the road (Harris 2013).

Rail transport is much safer than road transport - not only in terms of deaths (PTUA 2011b) - but especially in terms of serious injuries (PTUA 2012a).

Figure 3.1: Serious injury rate by transport mode



Source: BITRE 2012, p.114

The Victorian Government can save lives and reduce serious road trauma by encouraging a greater role for public transport and rail freight in place of private motor vehicle use, and providing a safer environment for people travelling by active transport (PTUA 2012a; Teschke *et al* 2012). Specific proposals to achieve this are outlined in Section 4 below.

4 Recommendations

4.1 *Ensuring services are integrated*

An effective network capable of serving dispersed destinations relies upon integration between services and ease of transfer between intersecting routes (PTUA 2009a, pp.4-5 & 11-12). Integration in Melbourne is hampered by a range of problems, including tram routes terminating short of suitable interchanges and meandering bus routes that fail to connect with train services.

4.1.1 Bus route reform

Due to a lack of integrated network planning over many years, Melbourne's buses are slow and meandering, and fail to offer good connections with rail services (PTUA 2010; PTUA 2012b).

The current Victorian Government was elected on a platform that included "ensuring services are integrated" (Victorian Liberal Nationals Coalition 2010). An integrated multi-modal network is best delivered by competent network planning that ensures modes and routes compliment - rather than compete with - each other (PTUA 2009a, pp.30-31). A lack of authority and capability within the central public transport agency can allow operators to cannibalise other services and undermine the effectiveness of the overall network in an effort to maximise patronage on their own services (PTUA 2012b).

To give effect to the Government's election commitment to integrate services, Public Transport Victoria (PTV) should be empowered with the requisite skills and authority to plan and implement an integrated multi-modal public transport network. Central to this responsibility will be a fundamental redesign of the bus network to straighten routes and better integrate with other services and trip generators.

To ensure success, route reform must be accompanied by genuine public consultation (PTUA 2012b, p.16). PTV should be resourced and mandated to embed meaningful public engagement into its strategic and network planning activities in general, and into the bus route reform process in particular.

4.1.2 New railway stations

In a number of established areas, existing railway lines are not well integrated with surrounding activity. This often forces people to drive to stations some distance away, placing added pressure on station parking, or to bypass public transport altogether adding to pressure on road networks.

4.1.2.1 Southland (Frankston line)

Southland currently has poor access to rail services despite the Frankston line running right past the shopping centre. A new station is an obvious means of integrating a major trip generator with the Principal Public Transport Network (PPTN) and would enable connections with many bus routes.

Improved public transport access to Southland would ease pressure on car parking and local roads.

4.1.2.2 Newport West (Werribee line)

A new station at Newport West would enable access to existing rail services in an area that currently has poor access despite Werribee line services running through the area.

A station near Maddox and Champion roads would also provide access to educational institutions such as Bayside College and the Newport campus of Victoria University.

4.1.2.3 Eltham North (Hurstbridge line)

A new station in Eltham North would improve access to rail services in an area that currently has poor access despite the Hurstbridge line running through the area. At present there is a stretch of 5 kilometres between Eltham and Diamond Creek where passengers cannot board or alight services. An additional station would provide this opportunity.

4.1.2.4 Cave Hill (Lilydale line)

A new station near Cave Hill would improve access to rail services in an area that currently has poor access despite the Lilydale line running through the area. At present there is a stretch of nearly 5 kilometres between Mooroolbark and Lilydale where passengers cannot board or alight services.

4.1.2.5 Caroline Springs (Melton line)

Construction of a station at Caroline Springs was supported by a Victorian Parliamentary inquiry into outer suburban development, and would improve access to rail services along an existing rail corridor.

4.1.2.6 Campbellfield (Upfield line)

A new station at Campbellfield would improve access to rail services in an area that has poor access despite the Upfield line running through the area. A station on Camp Road would also provide access to Campbellfield Plaza and enable connections with route 902 and 538 buses.

4.1.3 Completing missing links in the tram network

For historical reasons, Melbourne currently boasts a large number of tram routes terminating as little as 500 metres short of the nearest railway station. The following short extension projects would release disproportionate value by increasing the utilisation of existing infrastructure at the suburban ends of tram lines. Integrating tram routes more effectively with train and bus routes would create a network better able to serve a diverse range of journeys and provide better access to major trip generators.

4.1.3.1 Extend Route 3 to East Malvern station, and then onto Chadstone

A modest extension that provides a more logical terminus for tram route 3, linking it with the Glen Waverley train line and the Warrigal Road SmartBus (route 903). This provides an improved link to Chadstone Shopping Centre which is a Principal Activity Centre and major trip generator that is notorious for creating traffic congestion in the area. By connecting with the Glen Waverley line, fixing this missing link also provides improved connectivity between the Waverley area and the inner south (such as East St Kilda and Caulfield North).

4.1.3.2 Extend Route 48 from North Balwyn to Doncaster Hill

This extension provides a more logical terminus for tram route 48, linking the Principal Activity Centre at Doncaster Hill with the light rail network and inner east residential areas. The extended route would also connect with and feed into Eastern Freeway public transport services.

4.1.3.3 Extend Route 8 to Camberwell Road

Extending tram route 8 to Camberwell Road would complete coverage along Toorak Road, providing a connection with the Alamein train line which also connects with the Belgrave and Lilydale train lines at Camberwell.

This extension would offer a public transport connection between the inner east and the inner south. The extension would serve significant trip generators such as Tooronga Village and the Coles HQ, and also connect with tram route 75 to Vermont South.

4.1.3.4 Extend Route 57 to East Keilor

Provides access to the Principal Activity Centre at Highpoint from residential areas across the Maribyrnong River and connects with the Red Orbital SmartBus (route 903) at Milleara Shopping Centre.

4.1.3.5 Complete Route 75 extension from Vermont South to Knox City

Extending tram route 75 from Vermont South to Stud Road would provide a direct east-west link from Knox City and the Stud Road SmartBus (route 901) to residential areas and trip generators to the west, including Deakin University, PLC and Tally Ho Business Park.

The extension would also provide access to the inner city on the tram itself or by connecting to the intersecting Alamein train line.

4.1.3.6 Extend Route 16 to Kew Junction

A simple extension along Cotham Road to the Kew Junction Major Activity Centre that would allow connections with High Street buses and route 48 trams and hence greatly facilitate non-radial journeys. This would complement the extension of route 48 to Doncaster and offer connections between the inner east and Manningham.

4.1.3.7 Extend Route 6 to Ashburton station

A modest extension that provides better coverage of High Street and offers links to both Alamein and Glen Waverley train lines.

4.1.3.8 Extend Route 72 north to Doncaster Road (tram 48) and then to Ivanhoe station

The initial extension would provide more a significant north-south service and allow direct connections with tram route 48. A further extension to Ivanhoe railway station would enable connections with Eastern Freeway public transport services to the CBD or Doncaster as well as provide a link between the inner east and northeast of Melbourne.

4.1.3.9 Extend Burke Road track south to Caulfield station

Extending the Burke Road tram track south to Caulfield railway station would provide a north-south link between the Frankston, Cranbourne/Pakenham, Glen Waverley and Belgrave/Lilydale train lines.

This extension would improve access to the Caulfield activity centre, racecourse and Monash University campus from the north, and access to inner eastern Melbourne from the south.

4.1.3.10 Extend Park Street South Melbourne track to St Kilda Road

A very simple and cheap augmentation to permit creation of a new east-west tram route linking Albert Park, South Melbourne and South Yarra and creating a stronger network effect in an area otherwise dominated by north-south services.

4.1.3.11 Extend Route 67 to Carnegie station

A modest extension that provides a more logical terminus for tram route 67, linking it with Cranbourne/Pakenham line trains, and giving improved access to the inner south from south-eastern Melbourne.

4.1.3.12 Extend Route 82 via Footscray Road to Docklands and the City

This connection would significantly improve access to the rapidly developing Docklands area from the CBD as well as from Footscray and Maribyrnong. The extension would also provide access to the Footscray transit city from the CBD and Docklands.

4.1.3.13 Extend Route 5 to Darling station

This short extension would provide an improved link between the inner south and the Glen Waverley line which serves the eastern suburbs and connects with SmartBus routes along Warrigal, Blackburn and Springvale roads.

4.1.3.14 Extend Route 86 to South Morang

This extension would provide improved access from outer northern Melbourne to educational institutions in Bundoora and other destinations in inner and middle northern Melbourne. Completing this link would allow connections with the South Morang railway line and Yellow Orbital SmartBus (route 901) running through northern Melbourne.

4.1.3.15 Extend Route 112 to Reservoir station

Extending tram route 112 to Reservoir railway station would improve public transport options in the area and allow connections with train services along the South Morang line.

4.2 Expanding coverage of fast, frequent public transport

About two thirds of Melbourne residents do not currently have access to the rail network which is a key determinant of road congestion levels (PTUA 2008b, pp.16-19).

There is a need to boost coverage of the rail network to ensure more people have access to time-competitive public transport that can relieve pressure on known congestion hotspots (PTUA 2006, pp.21-23) and reduce emissions.

4.2.1 New and extended metropolitan railway lines

According to the Government's election policy (Victorian Liberal Nationals Coalition 2010), PTV would be tasked with "promoting the extension of the public transport network, especially rail". The priority investments for expanding coverage of heavy rail are outlined below.

4.2.1.1 Extending the South Morang line to Mernda

This extension would serve a rapidly growing area of Whittlesea, which is one of the fastest growing municipalities in Australia. A reservation is already in place ensuring that construction could commence promptly following approval of funding.

4.2.1.2 Constructing a new railway line from Victoria Park to Doncaster East, following the alignment of the Eastern Freeway as far as Bulleen

A heavy rail line into Manningham would finally offer a fast, high capacity public transport alternative to an area that currently has much lower public transport patronage than comparable parts of Melbourne due to the inadequacy of existing services (PTUA 2007, pp.12-14). A 1991 report to the Victorian Minister for Transport (Russell 1991) found that heavy rail to Doncaster would provide "both the best service to residents and have the best chance of offsetting the problems of road congestion" compared to a range of other road and public transport enhancements. The report also recommended that this option be pursued if favourable costing advice was obtained.

Despite inflated costings, a 2001 study for the Victorian Government found that the Benefit Cost Ratio (BCR) of heavy rail to Doncaster was nearly twice that of the westwards extension of the Eastern Freeway proposed as part of the East West Link Needs Assessment (EWLNA) (PTUA 2008a, pp.16-20) and included in the Victorian Government's 2011 and 2012 submissions to Infrastructure Australia.

Based on actual costs for comparable projects outside Victoria, a recent report for local governments in the Doncaster corridor found that "the cost of constructing the Doncaster rail, complete with a heavy rail down the Eastern Freeway from Doncaster to Victoria Park, or Collingwood, and new buses and new trams required to complete the cross-corridor linkages, would be something in the order of \$850 million" (Newman 2012, p.iii). This costing suggests a BCR much higher than the East-West motorway proposal.

The EWLNA reconfirmed that the majority of Eastern Freeway traffic is heading to the CBD and surrounds (EWLNA, p.131). These travel patterns would be well-served by a heavy rail line to Doncaster, while the minority of journeys to destinations beyond the vicinity of the CBD would also be served by virtue of such a rail link connecting at inner city stations with

services to other parts of Melbourne¹. A railway line along our suggested alignment would also enable connections with buses at Hoddle Street, Burke Road, Chandler Highway, High Street and Bulleen, Thompsons, Williamsons and Blackburn roads (and possibly Springvale Road), including most or all of the orbital SmartBus routes.

Although not directly relevant to passenger services, we also note that proposals have been raised to run a railway line to Dandenong via the Eastern and Eastlink freeways for freight purposes. Such proposals would obviously add to the benefits of constructing a railway line to Doncaster, and could also provide an alternative route to Gippsland if the existing route via Caulfield is unavailable due to standardisation works, grade separation or other disruption.

4.2.1.3 A new railway line to Rowville via Monash University

A heavy rail line to Rowville would improve access to the Stud Park Major Activity Centre and the Monash Science Technology Research and Innovation Precinct incorporating Monash University, the CSIRO and Australia Synchrotron. Journey times from Rowville on the current SmartBus service are about 30 minutes to Monash University and an hour and a quarter to the CBD, both of which compare poorly to driving. A heavy rail line could cut journey times from Rowville to Monash University and the CBD to around 10 minutes and 30 minutes respectively. By offering an attractive, time competitive public transport option to this area of outer eastern Melbourne, a heavy rail line would provide significant relief to the Monash freeway corridor, comfortably absorbing the equivalent of three full lanes of Monash Freeway traffic.

A 2004 study found that a railway line to Rowville would offer many benefits such as reduced travel times, reduced congestion and vehicle emissions, employment generation, more affordable mobility and reduced pressure on car parking (Russell *et al* 2004). A heavy rail line would also offer greater capacity, thereby addressing overcrowding issues experienced on existing bus services and providing greater scope for patronage growth, and improve reliability by separating services from congested road conditions.

4.2.1.4 Electrification of the existing line to Melton, adding a new station serving Caroline Springs

Electrification of the line to Melton would enable higher capacity metropolitan rolling stock to access train paths along the corridor that are currently taken up by lower capacity regional services and thereby ease overcrowding in the west of the city right through to central Melbourne. Construction of a station at Caroline Springs would greatly improve access to the public transport network in an important growth area and ease pressure on Sunbury line services (and station parking) which are currently among the most crowded in Melbourne. This line could also connect with the proposed Green Orbital SmartBus route, providing a link between the outer west of Melbourne and other parts of the city.

¹ "The heavy railway option opens up more opportunities for inter-regional travel growth than the light rail option. Possibly because the heavy rail design integrates better with other heavy rail services.

External transit travel growth is mainly from the South and East to and from [Northern Central City Corridor]. Again this is a wider impact than the light rail option and is due to better inter regional connectivity provided by operating DART as heavy rail and hence better connecting with other regional rail services.", *Northern Central City Corridor Study Appraisal of Transit Strategy Results*, August 2002, p.41

In order to enhance capacity and reliability on this corridor, single track sections of line beyond Deer Park West should also be duplicated in conjunction with electrification works.

A more attractive and time-competitive public transport option for outer western Melbourne enabled by electrification would relieve pressure on both the Western Ring Road and Westgate corridors, delivering significant productivity benefits for business.

4.2.1.5 Duplicating and extending the Frankston line to Baxter and beyond

This extension provides improved mobility within the Urban Growth Boundary to the southeast of Frankston, and enables improved access to the Monash University campus at Leawarra.

Electrification work should be carried out simultaneously with track duplication to ensure adequate capacity for more frequent passenger services and freight services.

4.2.1.6 Duplicating and extending the Cranbourne line to Clyde

Combined with duplication of existing single track, a short extension of this line would better connect new communities to the public transport backbone and improve access to a number of existing and proposed educational institutions and recreational facilities in the area. A station at Cranbourne East was proposed under *Melbourne 2030* and could be easily achieved given the existing reservation for the South Gippsland railway line.

4.2.1.7 Alamein line

Stations on the Alamein line could be reconfigured to better integrate with intersecting routes (e.g. tram route 75 on Toorak Road), and a short extension (with duplication from Ashburton) to meet the Glen Waverley line investigated to allow connections at East Malvern station, including with the proposed tram route 3 extension. The Alamein line extension should also continue to Oakleigh if a proposed expansion of Chadstone shopping centre is to proceed.

4.2.2 Cutting delays

Even if it carries a minority of journeys, the speed of public transport can have a significant impact on general traffic flows (PTUA 2008b, pp.16-19). Where only a slow and unappealing public transport system is offered (such as across large areas of Melbourne), road users will (reluctantly) choose to endure severe congestion and add to road traffic volumes.

However, where more attractive alternatives to private car use are available, potential road users will opt for them rather than endure the congestion they would otherwise be exacerbating. As a result, road travel times will tend to converge with the time taken by equivalent public transport journeys (Mogridge 1997; PTUA 2008b, pp.16-19). The implications of this convergence are dire for areas with slow, infrequent or unreliable public transport.

Although a comprehensive rail network is fundamental to providing an attractive alternative to congested roads, buses and trams are vital to provide access to the heavy rail backbone, as well as serve journeys off the rail network. Measures outlined below would enhance the contribution of both rail and road-based public transport.

4.2.2.1 Track duplication

A lack of investment in Melbourne's rail network has left numerous single track sections of railway that limit train capacity and frequencies. Duplication will enhance capacity and reliability on the lines themselves and flow through to improved reliability and flexibility on other lines in the same group.

Werribee line (Northern group and Geelong line): The Werribee line serves some of the fastest growing areas in Melbourne, but it offers poor service levels relative to other railway lines. Duplication of the Altona loop (Altona Junction to Laverton Junction) would boost capacity and reliability on the line, and indirectly benefit Geelong and South Western Victoria services by allowing greater operational flexibility.

Upfield line (Northern group): Gowrie to Somerton Road. The proposed extension of the Upfield line to Roxburgh Park increases the proportion of single track along the route and thereby constrains frequencies, flexibility and reliability. The enhanced network effect resulting from the extension should also encourage patronage growth which will require higher service levels.

Even without an extension, poor service levels are already a problem on this line needing rectification. Duplication beyond Gowrie would support improved service levels and reliability on the line.

Hurstbridge line (Clifton Hill group): Duplication of the single track sections of railway line from Heidelberg to St James Road and from Greensborough to Hurstbridge would facilitate improved frequencies and reliability on the Hurstbridge line.

Belgrave line (Burnley group): Ferntree Gully to Belgrave. Belgrave services are often delayed by having to wait for services heading in the opposite direction along the single track section beyond Ferntree Gully. Duplication of the single track section would help to avoid disruptions such as this. It would also boost capacity on the Belgrave line and have capacity and reliability benefits across the broader Burnley group (which comprises the Lilydale, Belgrave, Alamein and Glen Waverley lines).

Lilydale line (Burnley group): Mooroolbark to Lilydale. Passengers report that Lilydale services are sometimes terminated at Mooroolbark due to city-bound trains using the single track section beyond Mooroolbark. Duplication of the single track section would help to avoid disruptions such as this. It would also boost capacity on the Lilydale line, allowing more frequent services, and have capacity and reliability benefits across the broader Burnley group (which comprises the Lilydale, Belgrave, Alamein and Glen Waverley lines).

Alamein line (Burnley group): Ashburton to Alamein/East Malvern. Significant network enhancements proposed elsewhere have the potential to substantially boost patronage on this line and necessitate higher service levels which may be constrained by the single track section of line.

Cranbourne line (Caulfield group): Pakenham line junction to Clyde. This line serves one of the fastest growing areas in Australia, however the single track sections between Dandenong and Cranbourne constrain frequencies on Cranbourne line services and limit operational flexibility right across the Caulfield group of lines.

Melton line (Northern group and Ballarat line): Deer Park to Melton. Duplication would significantly boost the capacity and reliability of both metropolitan and regional services in this corridor. Rapid population growth, as well as clear potential to increase mode share, both underline the need to cater for higher service levels to the expanding metropolitan area. This proposal will also cater for more frequent and dependable regional rail services to Ballarat and beyond.

Regional rail enhancement (Ballarat and Bendigo lines): (see also Section 4.3).
Second platform at Bacchus Marsh to allow trains to cross, and enhance short-starting.
An additional passing loop near Ballan.
Re-duplication of the parallel sections of single track between Ballarat and Warrenheip.
Re-duplication of track between Melbourne and Bendigo that was reduced to single track as part of the Regional Fast Rail project.

4.2.2.2 Traffic signal priority

Trams can spend as much as one third of their time waiting unnecessarily at traffic lights (Morton 2007), making services uncompetitive with private motor vehicles and thereby limiting their contribution to minimising congestion. Travel time savings of around 20 per cent have been achieved in Munich, Germany by enabling trams to activate green lights as part of a “Stop only at stops” program that has also boosted the productivity of rolling stock and delivered savings in operating costs. Similar improvements to travel times and capacity could be gained by implementing GPS-based dynamic signal priority to reduce traffic light delays for road-based public transport in Melbourne (Lund 2012). Traffic control systems should be upgraded to provide road-based public transport with dynamic signal priority, with the time savings re-invested into higher frequencies to reduce waiting times.

4.2.2.3 Bus lanes and headstart lanes

On-road priority measures for buses could reduce travel times by around 20 per cent, thus making much more effective use of bus fleets and enticing more people out of low occupancy private motor vehicles.

Head-start lanes with ‘B’ lights are a relatively easy and low-cost option for helping buses to cut through congestion, and should be rolled out across all SmartBus routes, and included as a standard feature of all road works along bus routes.

4.2.2.4 Level crossing elimination on tram and SmartBus routes

While the main beneficiaries of level crossing eliminations are road users, the following grade separations should be prioritised to allow higher speeds for trains and reduce delays for road-based public transport.

Glenferrie Road, Kooyong: Facilitate increased speed and frequencies on Glen Waverley line, which would ease pressure on Monash freeway corridor, and reduce delays for route 16 trams.

Toorak Road, Malvern: Facilitate increased frequencies on Glen Waverley line, which would ease pressure on Monash freeway corridor, and reduce delays for route 8 trams once extended.

Glenhuntly and Neerim roads, Glenhuntly: Facilitate increased frequencies and higher speeds for both passenger and freight trains on the Frankston line (currently limited to 20 km/h crossing Glenhuntly Road). This would ease pressure on Nepean Highway corridor, and would also reduce delays for route 67 trams and the 623 and 624 bus routes.

Simultaneously re-locating the station to mid-way between Glenhuntly and Neerim roads would improve passenger interchange between trains and trams (on Glenhuntly Road) and buses (on Neerim Road), and improve pedestrian amenity in the suburb.

Clayton Road, Clayton: Removal of the level crossing at Clayton Road would facilitate increased frequencies on the Cranbourne and Pakenham lines, which serve growth areas in southeast Melbourne, and ease traffic flow on Clayton Road.

Improved train services in south east Melbourne would ease traffic pressure on the Monash Freeway corridor.

Burke Road, Gardiner: Facilitate increased speed and frequencies on Glen Waverley line, which would ease pressure on Monash Freeway corridor, and reduce delays for route 72 trams.

Springvale Road, Springvale: Removal of the level crossing at Springvale Road would facilitate increased frequencies on the Cranbourne and Pakenham train lines, which serve growth areas in southeast Melbourne, and ease traffic flow on Springvale Road.

Riversdale Road, Camberwell: Facilitate increased frequencies on Alamein line and reduce delays for route 70 trams.

Balcombe Road, Mentone: Facilitate increased frequencies on the Frankston line and reduce delays for the route 903 SmartBus and 708 and 825 buses. Improved train services on the Frankston line would ease traffic pressure in the Nepean Highway corridor.

Bell Street and Munro Street, Coburg: Removal of the level crossings at Bell and Munro streets would facilitate improved frequencies on the Upfield line.

Doing these adjacent crossings as a single project would allow for more gentle gradients and reduce delays for the route 903 SmartBus and 512, 513 and 527 buses.

Bell Street, Cramer Street and Murray Road, Preston: Elimination of the level crossings at Bell and Cramer streets and Murray Road would facilitate improved frequencies on the South Morang line.

Doing these adjacent crossings as a single project would allow for more gentle gradients and reduce delays for the route 903 SmartBus and 513 and 527 buses.

Buckley Street, Essendon: Facilitate increased frequencies on the Craigieburn line and reduce delays for the route 903 SmartBus and 475 bus.

Camp Road, Campbellfield: Removal of the level crossing at Camp Road would facilitate increased frequencies on the Upfield line and reduce delays for the route 902 SmartBus and 538 bus.

Combining level crossing elimination with construction of a new railway station would also provide access to Campbellfield Plaza and enable connections with route 902 and 538 buses.

North Road, Ormond, McKinnon Road, McKinnon and Centre Road, Bentleigh: Doing these adjacent crossings as a single project would allow for more gentle gradients, facilitate increased frequencies on the Frankston line and reduce delays for the route 703 SmartBus and 625 and 630 buses.

Cherry Street, Werribee: Removal of the level crossing at Cherry Street would facilitate increased frequencies on the Werribee and Geelong lines and reduce delays for route 439, 443, 441 and 446 buses.

Improved train services in western Melbourne would ease traffic pressure in the West Gate corridor.

Ferguson Street, North Williamstown: Elimination of the level crossing at Ferguson Street would facilitate increased frequencies on the Williamstown line and reduce delays for route 415 and 472 buses, as well as the proposed 904 Blue Orbital SmartBus route.

Keon Parade, Keon Park: Elimination of the level crossing at Keon Parade would facilitate increased frequencies on the South Morang line which serves one of the fastest growing areas in Australia.

Mount Derrimut Road/Station Road, Deer Park: Grade separation would support higher frequencies on the Melton line and reduce delays for the route 400 bus and proposed extension of the route 902 Green Orbital SmartBus. This crossing will also see an increase in train services as a result of the Regional Rail Link (RRL) project.

4.3 Freight transport

The PTUA believes an enhanced role for rail freight is vital to the productivity and sustainability of the Victorian economy. Our response to the National Land Freight Strategy discussion paper outlines recommendations for strengthening the contribution of rail to the freight sector (PTUA 2011a). In particular, rail is unlikely to fulfil its potential while different rail gauges inhibit the efficient movement of freight.

A Grain Logistics Taskforce report (Grain Logistics Taskforce 2011) recommended the assessment of opportunities to standardise Victoria's rail network, which followed a Victorian Freight & Logistics Council report (VFLC 2010, pp.50-60) that found benefits with a Net Present Value of \$100 million from standardisation of a number of regional lines in Victoria.

In Australia's integrated national economy, supply chains are now largely national in scope. Therefore intrastate freight movements are often just a component of a longer national supply chain. As noted in our land freight strategy submission (PTUA 2011a), the existence of incompatible rail gauges inhibits interoperability across Australia's freight infrastructure and harms productivity. Removing this inefficiency through gauge standardisation should be a key priority for the Victorian Government. Consistent with the findings of the Grain Logistics Taskforce report, the opportunity should also be taken during standardisation works to increase axle load ratings. Similarly, alignments should be optimised where they currently inhibit speed, and additional passing opportunities created to expand capacity and reduce delays for both freight and regional passenger services.

The PTUA proposes a *Bringing our rail network up to standard* program that focuses on track upgrades and the standardisation of rail gauges, thereby helping to ensure that fast, high-capacity rail freight services can be run from as close as possible to where the freight is generated to as near as possible to its destination (PTUA 2009b, pp.10-18). The program should also ensure that ports (including Webb Dock) and intermodal facilities are seamlessly integrated with the standard gauge rail network.

We suggest the following sequence for standardisation (PTUA 2008c, pp.14-15), to be accompanied by work to improve rail alignments, create additional passing lanes on single-track lines, and allow increased axle loadings (PTUA 2009b, pp.6-17):

1. Melbourne to Cobram, Tocumwal and Dookie via Shepparton;
2. Geelong to Mildura, Yelta, Pinnaroo, Kulwin and Robinvale, via Ballarat and Maryborough;
3. Melbourne to Piangil, Moulamein and Deniliquin via Bendigo, including Bendigo to Inglewood and Maryborough;
4. Heywood to Mount Gambier;
5. Melbourne to Ararat via Ballarat;
6. Geelong to Dennington;
7. Melbourne to Bairnsdale, Maryvale and Leongatha.

Future standardisation would also be aided by ensuring ongoing track work (e.g. Regional Rail Link; metropolitan maintenance; etc) includes gauge convertible sleepers as have been included as part of Adelaide's rail revitalisation program.

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